

## Roof System Assessment Report of Wind Uplift Resistance (ISO 17025)

|                   |               |
|-------------------|---------------|
| Document Number:  | PUB-DRU304337 |
| Publication Date: | 2014-08-18    |
| Revised:          | 2015-07-09    |
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**Supplier:**



### **Mod-Bit Sopraboard Partially Adhered System, Partially Adhered Roof System (PARS)**

#### **Roofing System Summary :**

- Cap sheet membrane: Modified Bituminous Membrane or allowable products
- Base sheet membrane: Modified Bituminous Membrane or allowable products
- Cover board: Asphaltic board
- Insulation: Polyisocyanurate or allowable products
- Vapour barrier: Membrane or allowable products
- Thermal barrier: Optional
- Decking: Steel Deck

- Dynamic Uplift Resistance (DUR) as per CSA A123.21:

| Description     | Test observation reading | With SF of 1.5            |
|-----------------|--------------------------|---------------------------|
| <b>System A</b> | -2.1 kPa (-45 psf)       | <b>-1.4 kPa (-30 psf)</b> |
| <b>System B</b> | -3.4 kPa (-72 psf)       | <b>-2.3 kPa (-48 psf)</b> |
| <b>System C</b> | -4.2 kPa (-87 psf)       | <b>-2.8 kPa (-58 psf)</b> |
| <b>System D</b> | -5.0 kPa (-105 psf)      | <b>-3.4 kPa (-70 psf)</b> |

**Notes :** **Allow products:**

Only equivalent products included into the roofing system's report are admissible.

**Optional components:**

Components of the roofing system designated as optional may be included or excluded from the roofing system which will not change the published dynamic uplift resistance (DUR).

**Safety factor:**

As required by in the CSA A123.21 Standard, the published dynamic uplift resistance (DUR) are reduced by a safety factor of 1.5 (SF of 1.5)

**Admissible wind uplift load calculation:**

An online calculator is available at [www.sigders.ca](http://www.sigders.ca). The user will have to provide the following information:

- building location;
- building geometry;
- building exposure;
- building openings;
- building importance factor.

The calculator will display the allowable design load of the roof's field surface, edges and corners as well as the dimensions of the edge and corner zones.

**Technical Advisories:**

Assessment reports must be read in conjunction with technical advisories issued by **exp** Services Inc.

**Values**

For this document, the metric values are the standard and values in parentheses are for information only.

**Notice**

**Exp** Services Inc. reserve their right to withdraw, without prior notice, the test report performed as per CSA A123.21 Standard.

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### Roofing System's Specific Data:

#### Cap Sheet Membrane:

|                       |                          |                             |                             |
|-----------------------|--------------------------|-----------------------------|-----------------------------|
| - Allowable products: | <b>Soprema</b>           |                             |                             |
|                       | Sopralene Flam 180 GR    | Sopralene Flam 250 GR       | Soprastar Flam HD GR        |
|                       | Sopralene Flam 180 FR GR | Sopralene Flam 250 FR GR    | Soprastar Flam HD FR GR     |
|                       | Sopralene Mammoth GR     | Soprafix Traffic Cap 660    | Soprafix Traffic Cap FR 661 |
|                       | Sopraply Traffic Cap 560 | Sopraply Traffic Cap FR 561 |                             |
| - Attachment mode:    | <b>Heat welded</b>       |                             |                             |

#### Base sheet membrane:

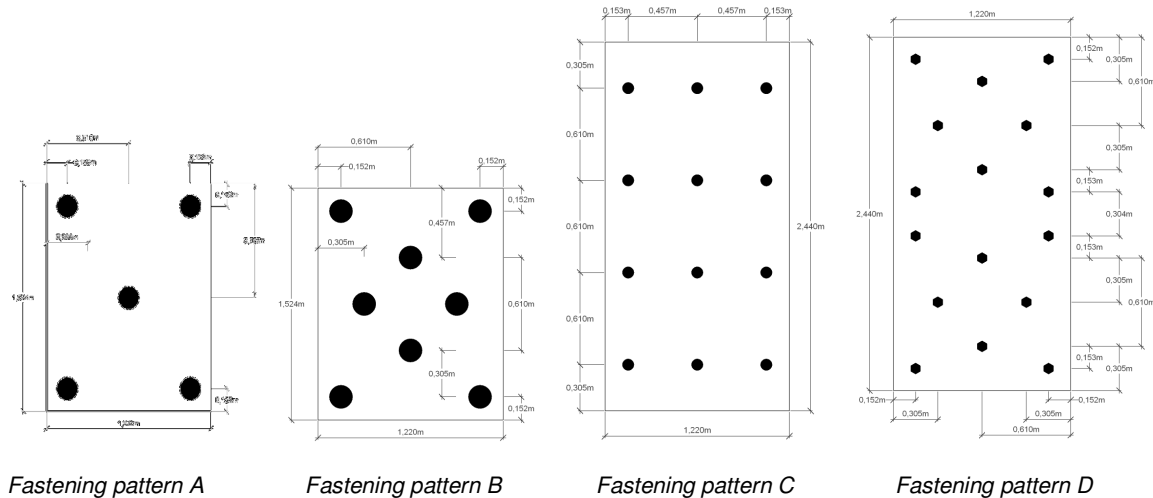
|                       |                    |                  |                   |
|-----------------------|--------------------|------------------|-------------------|
| - Allowable products: | <b>Soprema</b>     |                  |                   |
|                       | Sopralene Flam 180 | Elastophene Flam | Sopraply Base 520 |
|                       | Sopralene Flam 250 |                  |                   |
| - Attachment mode :   | <b>Heat welded</b> |                  |                   |

#### Cover board:

|                                      |   |                                      |
|--------------------------------------|---|--------------------------------------|
| - Allowable products:                | <b>Soprema</b>  |                                      |
|                                      | Sopraboard  |                                      |
| - Allowable thickness:               | Between 3.2 mm (1/8 in.) and 6.4 mm (¼ in.)   |                                      |
| <b>Mechanically attached Pattern</b> | Row spacing   | Fasteners spacing                    |
| <b>for System A result</b>           | <b>5 fasteners per 20 ft²</b>   | <b>As Fastener drawing pattern A</b> |
| - Attachment type:                   | Fasteners #14 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating.<br>20 gauges, round plate, 76 mm (3 in.), Galvalume finish |                                      |
| - Pullout fastener resistance:       | Minimal reference resistance base on test:<br><b>442 lbf or 200.4 Kg</b>  |                                      |
| - Attachment supplier:               | <b>Soprema</b>  |                                      |
| <b>Mechanically attached Pattern</b> | Row spacing   | Fasteners spacing                    |
| <b>for System B result</b>           | <b>8 fasteners per 20 ft²</b>   | <b>As Fastener drawing pattern B</b> |
| - Attachment type:                   | Fasteners #12 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating.<br>20 gauges, round plate, 76 mm (3 in.), Galvalume finish |                                      |
| - Pullout fastener resistance:       | Minimal reference resistance base on test:<br><b>393 lbf ou 178 Kg</b>  |                                      |
| - Attachment supplier:               | <b>Soprema</b>  |                                      |
| <b>Mechanically attached Pattern</b> | Row spacing   | Fasteners spacing                    |
| <b>for System C result</b>           | <b>12 fasteners per 32 ft²</b>  | <b>As Fastener drawing pattern C</b> |
| - Attachment type:                   | Fasteners #12 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating.<br>20 gauges, Hex plate, 73 mm (2⅞ in.), Galvalume finish  |                                      |
| - Pullout fastener resistance:       | Minimal reference resistance base on test:<br><b>393 lbf ou 178 Kg</b>  |                                      |
| - Attachment supplier:               | <b>Soprema</b>  |                                      |
| <b>Mechanically attached Pattern</b> | Row spacing   | Fasteners spacing                    |
| <b>for System D result</b>           | <b>16 fasteners per 32 ft²</b>  | <b>As Fastener drawing pattern D</b> |
| - Attachment type:                   | Fasteners #12 with #3 deep recesses Phillips head composed of hardened carbon steel and covered with an anticorrosion coating.<br>20 gauges, Hex plate, 73 mm (2⅞ in.), Galvalume finish  |                                      |
| - Pullout fastener resistance:       | Minimal reference resistance base on test:<br><b>393 lbf ou 178 Kg</b>  |                                      |
| - Attachment supplier:               | <b>Soprema</b>  |                                      |

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## Insulation:

|                        |  |              |                   |
|------------------------|--|--------------|-------------------|
| - Allowable products:  | <b>Soprema</b>                                 |              |                   |
|                        | Sopra-Iso                                      | Sopra-Iso +  | SopraRock DD      |
|                        | SopraRock DD Plus                              | SopraRock MD | SopraRock MD Plus |
|                        | <b>Atlas Roofing Corp.</b>                     |              |                   |
|                        | ACFoam II                                      | ACFoam III   | ACFoam IV         |
|                        | <b>Johns Manville</b>                          |              |                   |
|                        | ENRGY 3  | ENRGY 3 CGF  |                   |
|                        | <b>Hunter Panels</b>                           |              |                   |
|                        | H-Shield                                       | H-Shield CG  |                   |
| - Allowable thickness: | Between 25 mm (1 in.) to 203 mm (8 in.)        |              |                   |
| - Attachment mode:     | Loose laid or adhered or mechanically attached |              |                   |

## Vapour Barrier:

|                       |   |                          |
|-----------------------|---|--------------------------|
| - Allowable products: | <b>Soprema</b>  |                          |
|                       | Sopravap'R  | Sopralene Stick Adhesive |
| - Attachment mode:    | Adhered (Primer required on allowable thermal barrier or wood deck or concrete deck with Elastocol stick or Elastocol Stick Zero) |                          |
| - Attachment type:    | Self-adhering membrane  |                          |

## Or Vapour Barrier optional:

|                       |  |                     |
|-----------------------|--|---------------------|
| - Allowable products: | <b>Soprema</b>   |                     |
|                       | Sopralene SP 3.5 mm  | Sopralene SP 2.2 mm |
| - Attachment method:  | Heat welded (Primer required on allowable thermal barrier or concrete deck with Elastocol 500) |                     |

## Or Vapour Barrier optional:

|                       |  |           |
|-----------------------|--|-----------|
| - Allowable products: | <b>Soprema</b>                                 |           |
|                       | Xpress Vap'R board                             | Soprastop |
| - Attachment mode:    | Loose laid or adhered or mechanically attached |           |

**Thermal Barrier (optional):** See optional products table



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### Decking:

|   |  |
|---|--|
| - Type:                                       | Galvanized construction steel or coated with an aluminum/zinc alloy or PVC in accordance with ASTM A653, ASTM A792, ASTM A1008 or CSSBI 10M Standards.                       |
| - Supplier:                                   | Generic  |
| - Thickness:                                  | 0.76 mm (0.03 in.) minimum, with a yield strength of 230 MPa (33 ksi) and a tensile strength of 310 MPa (45 ksi) commonly defined as being of a 22 gauges minimum thickness. |
| - Attachment method:                          | The deck's fastening to the supporting structure must be strong enough to resist wind uplift loads (adjusted as per NBC requirements).                                       |
| - Fastening uplift resistance (CSA S136.F04): | 2.09 kN (470 pf)   |
| - -Equivalence:                               | Steel deck thickness of 18 to 22 gauges or wood deck or concrete deck with pullout resistance equal or higher than the Fastening uplift resistance specified above.          |

### Optional Products Table:

#### Thermal barrier:

|                        |   |                |  |
|------------------------|---|----------------|--|
| - Allowable product:   | <b>Georgia Pacific</b>                                |                |  |
|                        | DensDeck  | DensDeck Prime |  |
|                        | <b>CGC / USG</b>                                      |                |  |
|                        | Securock Gypsum Fiber Roof Board                      |                |  |
|                        | <b>Unifix</b>   |                |  |
|                        | PermaBase Dek   |                |  |
| - Allowable thickness: | Between 6 mm (¼ in.) to 19.5 mm (5/8 in.)             |                |  |
| - Attachment mode:     | <b>Loose laid or adhered or mechanically attached</b> |                |  |